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TITLE: METHOD FOR USING NI-TI SUPERELASTIC SPRING

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ABSTRACT:

PURPOSE: To enable the Ni-Ti superelastic spring as a spring having a wide range of the shearing strains to be used and an excellent fatigue characteristic by specifying a service environmental temp. and the transformation temp. of the spring at the time of using the Ni-Ti superelastic spring.

CONSTITUTION: An ingot of the Ni-Ti alloy having a compsn. contg., by atomic %, 50.5 to 51.5% Ni or 49.5 to 51.5% Ni and $\leq 1\%$ in total of one or ≥ 2 kinds

among Fe, Co, Cr, V, Pd and Al as others, and consisting of the balance Ti is worked to a wire form by hot working and cold working and thereafter, this wire is heat treated for one hour at 450 to 550°C in the atm. This wire has excellent workability as a spring material and its transformation temp. A_f point is lower by 5 to 30°C than -40 to 120°C service environmental temp. of this spring material and, therefore, the spring material made of this Ni-Ti alloy is usable in a wide temp. range of -40°C to +120°C and the fatigue strength is excellent.

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